EFFECTIVENESS OF MOTOR VEHICLE TRAFFIC MANAGEMENT STRATEGIES BY TRAFFIC POLICE WITHIN NAIROBI COUNTY

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DECLARATION

This research project is my original work and has not been presented for a degree in any other university.

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D61/85669/2016

This research project has been submitted for examinations with my approval as the supervisor, department of Business Administration, School of Business, University of Nairobi.

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DEDICATION

I dedicate this research to my dear family for their great thoughts, support and inspiration that have kept me going all through the whole course, otherwise this research would not have been successful.

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LIST OF ABBREVIATION AND ACRONYMS

GHG   Greenhouse Gases

GVIAS   Government Vehicle Investigation of Accidents Section

MSMEs   Micro, Small and Medium Enterprises

NTSA   National Transport and Safety Authority

RBV   Resource-Based View

ROCE   Return On Capital Employed

VRIN   Value Rarity Inimitability Non-Substitutable

ABSTRACT

The study sought to explore the effectiveness of motor vehicle traffic management strategies used by the Kenya traffic police in Nairobi County. The research hence sought to answer the research question: Effectiveness of motor vehicle traffic management strategies used by traffic police within Nairobi County. The study was intended to accomplish the following specific objectives: To determine the strategies employed by the traffic police in managing traffic within Nairobi County; To establish the effectiveness of the strategies employed by the traffic police in managing traffic within Nairobi County. The research employed a survey technique. Primary data was gathered using questionnaires from the respondents. The population of study comprised of 14 police stations dealing with traffic matters. Quantitative and qualitative data analysis was utilized in the study. Descriptive statistics and content analysis was employed to examine the responses obtained from the questionnaires. The study found out that motor vehicle traffic management strategies have resulted in reduction of road accidents and prevention of road accidents. The study recommends that when it comes to promoting effectiveness, management's strategic decisions are primarily intended to reduce resources, whereas employing time-saving strategies. An organization whose management balances their decisions in ensuring that the entity continues to be effective gains from higher productivity levels with less resources. Therefore, implementing effective management strategies helps the organization attain effective business goals. To enhance the effectiveness of traffic management strategies the policing activities need to be organized so as to present a significant and immediate mitigation of risk to the capable traffic offender. One of the fundamental problems that hinder this process, which has been constantly outlined in the research literature, is the inability of authorities to consistently uphold the necessary high levels of enforcement.

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CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Roads, paths as well as streets are integral part of the structure of people, amenities for everyone to utilize. They aid people to move so as to do whatever they desire in their lives. Then again to make sure that this happens efficiently, and that stream of traffic on these roads, paths as well as streets are favorable to people, the entire system of travelers, vehicles as well as travel ways require to be prudently managed (Cervero, 2004). Effective traffic management strategies can save travelers time and money by reducing congestion and are important in enhancing mobility as they improve travel time and travel time reliability; reducing congestion as well as delay. They lead to economic vitality as they provide positive economic effect as improved freight travel time as well as reliability while at the same time enhancing access to industrial as well as work centers. They similarly minimize environmental pollution as they reduce the emission of air pollutants and greenhouse gases (GHGs) that are destructive to the environment as well as human health through facilitation of a more fuel-efficient travel speed. They also enhance safety as well as security as they lessen crash rates by smoothed traffic flow as well as road weather management and offer a more robust transportation system by way of optimization of the system capacity (Stuart, Anderson & Gerald, 2017).

The study was anchored on two theories; the resource-based theory and the dynamic capabilities theory. The resource based theory explains the specific competencies that an organization possesses whether current or potential to enable it achieve its goals (Helfat & Peteraf, 2003).

The dynamic capabilities theory explains the capability of an organization to utilize its resources when responding to challenges in the environment (Teece, Pisano & Shuen, 1997).

One of the biggest challenges to efficiency and effectiveness of the economy of Nairobi is traffic snarl ups in the city. In recent times there has been a gradual upsurge in the amount of automobiles in the city due to the growth of economic activities in the various industries. The upsurge in the amount of vehicles is attributed to rise in the amount of businesses and individuals living in Nairobi and hence has created a traffic snarl up within the Nairobi Central Business District. Managing of these traffic is crucial to the economy of the nation and of Africa as a region because Nairobi is a business hub for the country and a regional hub for key activities internationally. Nairobi has the Jomo Kenyatta International Airport which is the cargo hub for East and Central Africa. This means that most if not all of the East and Central Africa countries will have to pick their cargo from Nairobi for dispatch through road and rail to their respective destinations. This is a major contributor of traffic snarl up within the City of Nairobi. Efficient traffic management will boost the rate at which economic activities are taking place in the country and regionally (Police, 2016).

This study was therefore driven by the reason that metropolitan cities worldwide are facing the challenge of traffic management, leading to increased travel time as well as inconvenience because of congestion in the routes as well as roads, hence it is imperative for authorities as well as traffic engineering organizations to unite and brainstorm to discover a number of ways to alleviate these concerns (Cervero, 2004).

1.1.1 The Concept of Management Strategy

Woodward (2018) terms management strategy as an impending idea under which the link between the business and the surrounding (pattern for becoming accustomed to the surrounding) is outlined and it is the basis of the doctrines for the individuals within the business for making decision. Spacey (2016) refers to management strategy as a procedure that is employed to guide and run an enterprise to attain established objectives for instance administration, leadership as well as business implementation strategies. According to Williams (2017) management strategy is a process of stipulating an enterprise's goals, elaborating policies and guidelines to realize these goals as well as the apportionment of resources toward execution of the policies and realizing these goals. Management strategies are means aimed at meeting managers' goals for instance leading teams, impelling and monitoring resources to accomplish enterprise 'objectives.

Punt, Butterworth, Moor, De Oliveira and Haddon, (2016) notes that management strategy is a vigorous procedure entailing every enterprise and business which the organization undertakes in a structure similar to the game theory. Management strategies allow top management to effectively utilize enterprise's resources, be it knowledge-based or financial. It similarly acts as road map, directing business leaders in the appropriate manner to handle workforce, execute change as well as supervise the enterprise's long-term growth strategies. Several management strategies deal with particular enterprise's operation aspects for instance, growth or staff relations, whereas some deal with all aspects combination for the good of the enterprise, the staff as well as clients (Williams, 2017).

There are various types of strategies; the growth strategy which involves new products introduction or advancing the current products (Ansoff, 2014). The product differentiation

strategy is where a company adds features to a product making it more superior than similar products distributed by their competitors in order to achieve higher sales in the market (David, 2017). The price skimming strategy where a company charges higher prices for new products in the market with the aim of recovering costs incurred in the development of the same (Ansoff, 2014). The acquisition strategy where a small company purchases another company in order to increase its market share (David, 2017).

1.1.2 The Concept of Effectiveness

Tracy (2015) defines effectiveness as the ability of a strategy to attain the results desired by the one applying the strategy. An effective strategy means it is workable and that it can assist an enterprise to realize its goals. Besides, the concept of effectiveness infers to an analysis of modern weaponry and systems as well as general methodologies used in organizations to devise meaningful and appropriate measures and strategies to achieve a goal as viewed by Liba, Maksymenko, & Holovachko (2017). Effectiveness therefore models as a single system and characteristic that is primarily positioned at the apex of an organization's management (Hamermesh, 1983).

Goal measurement helps the organization to match the definite goal achievement and effectiveness with the envisioned achievement. This helps managers to answer the relative question, "Is this what ought to be?" Financial measures of goal achievement comprise of gross profit margin which evaluates the amount of money made after taking into account direct costs of sales. Financial operating margin is another measure lying between the gross and net profitability measures. Net profit margin is another financial measure of goal achievement that narrowly measures profits, and considers both direct and indirect costs.

Lastly is the return on capital employed (ROCE) which computes net profit in terms of proportion of the aggregate capital employed in the organization (Carter, Day & Klein, 2002). Non-financial measures of goal achievement include customer retention as well as churn. Customer experience is another non-financial measure that directly influences customer retention as well as churn. This entails the point of relations between the client and the enterprise. Lastly is innovation that is the capacity to introduce new products or services effectively into the market (Khan, Halabi & Khan, 2011).

Benchmarking is an essential means of understanding the organization's goal achievement as well as potential by comparing with different organizations. It is important to compare against organizations in similar sector. The market position as well as the goals of the organization however, influences certain comparisons that are made by the organization. For instance, organizations in a congested industry could perhaps need to scale itself against objective attainments within the industry. However an enterprise aiming speedy and substantial growth could opt evaluations with a well-known market front-runner. Benchmarking could similarly be done inside the organization. For instance, relating absenteeism rates between divisions could help extend working practices from the most goal achieving units of the organization (Smith, 1993).

A number of public organizations strive to create a credible impression that they are unsurpassed in their undertaking, and that they efficiently do it. Because if that perception is absent, their sponsors or customers could possibly move elsewhere for their services, leaving the organization to collapse. Public organizations measure their goal achievement by way of metrics as well as measurements systems for instance as the Balanced Scorecard that seeks out to outline measures that will give primary indicators of their health

organizations. Since public organizations do not have financial results as top indicator of their goal achievement, particular metrics that they use comprise of their mission effectiveness as well as efficiency: to achieve their mission in an unsurpassed manner, within the shortest time as well as minimum cost. Their goal achievement as well as success is therefore pointed out by their effectiveness as well as efficiency levels in the eyes of their customers as well as sponsors (Aveson, 1998).

1.1.3 The Kenya Police

It was established by the British colonialists in Kenya in 1907. From 1887 to 1902 policing was offered by the East African Trading Company. Afterward, Kenya Uganda Railway initiated police divisions to marshal and offered security to the consortium. The Police Ordinance was instituted in 1906 and a new force was created in 1907. This established the Nairobi Mounted Police. In 1920 the current police force name came into effect with the newly created British Kenyan colony. The force was initially comprised of only British and Indian rookies as high-ranking officers and Africans as lower rank officers. The British and Indian personnel were substituted by native Kenyan officers after Kenya attained independence in 1963 (Police, 2016).

The Kenya Police Service is headed by the Inspector General of Police. The traffic department falls under the Kenya Police Service and nationally it is headed by the Traffic Commandant of Police. The Nairobi County Traffic department is headed by the Nairobi County Traffic Commandant (Police, 2016). The functions of the Kenya Police Service include; to uphold and enforce the law impartially, to protect life and liberty, to preserve public order, to protect internal security, to preserve public property, to negate crimes, to register complains and much more. The Kenya Police Service is tasked with maintaining

and enforcing law and order. The functions of the traffic police is to ensure safety of all motorists, cyclists and pedestrians on the roadways (Police, 2016).

1.1.4 Nairobi County Traffic Command

Nairobi County is the 47th county of the Republic of Kenya, it is the business hub of the country and the region and serves as the capital city of Kenya. The county traffic command is a department within the Kenya Police Service based in Nairobi County mandated with the task of enforcing laws and policing with an aim to manage traffic flow in order to achieve the traffic management objectives (Police, 2016). Nairobi County Traffic Command is an arm of the government that is accredited with the powers to accelerate the pace of economic development in Kenya. The entity is therefore presented with the mandate of conducting situational analysis of the county's socio-economic conditions in an effort to unravel some of the elements that constrain the development of county while proposing strategies that may be undertaken by stakeholders and the government to pursue in turning around the momentous growth of the economy (Nairobi City County, 2016).

The primary goal of Nairobi County Traffic Command is hedged on the need to improve the business environment, efforts that are directed towards ensuring that the business environment is suitable for greater investments as well as commerce. The department is therefore accorded the powers to engage in the development of massive road projects that include the just completed Thika Super Highway while there are additional underlying plans to develop various by-passes and roads. The primary rationale for the study of Nairobi County Traffic Command remains in the need to establish effective managerial procedures and strategies that the department may deploy in enhancing the deteriorating

traffic conditions that are currently affecting the county of Nairobi, thus slowing down the economic development of the city.

1.2 Research Problem

Management strategies constantly brings about effectiveness as well as positive results and ends the day with a promising bottom-line. When it comes to promoting effectiveness, management's strategic decisions are primarily intended to reduce resources, whereas employing time-saving strategies. An organization whose management balances their decisions in ensuring that the entity continues to be effective gains from higher productivity levels with less resources. Therefore, implementing effective management strategies helps the organization attain effective business goals (Barney, 2001).

The high rate of rural to urban migration by the citizens in the country in search of work, education and other opportunities as a result of growth in economic activities within the city of Nairobi has led to increase in population and has consequently lead to an upsurge in vehicles amount both private and public in Nairobi city. The Kenya police traffic division is instituted to support the Kenya Police Service according to Section 24 of the National Police Service Act, 2011. Its objectives include: safeguarding free traffic flow, deterrence of road accidents, investigating accidents, enforcing all regulations with which the division is assigned as well as initiating road safety sensitization to the general public (The Kenya Police Service, 2015). The Kenya police traffic division still faces a number of challenges in effectively charging their duties to the general public despite various reforms that have been undertaken within the unit. Among the major challenges is the endemic culture of corruption that turns out to be a deeply-rooted problem. Furthermore, the Kenya police traffic division lacks the necessary equipment to effectively perform their

duties, and have to contend with poor infrastructure. There also seems to be lack of coordination with other units for instance the NTSA in effectively charging their duties.

A number of studies have been conducted both internationally and locally on the concept of traffic police as well as effectiveness of management strategies. For instance, Dixon, Martinez and Martin (2015) similarly conducted a research that sought to explore the effectiveness of social media marketing strategies in intercollegiate athletics departments. The study adopted a case study method. Primary data was utilized in the study. The findings of the study revealed that steal, team, engagement, analytics and mavens enhanced social media marketing effectiveness. Ogutu (2015) similarly conducted a research that sought to ascertain the effects of the external environment on internal management strategies within Kenyan micro, small and medium enterprises. The findings of the study revealed that substantial associations form the management strategies and the environmental aspects. Though, there was no substantial influence of the environment on the performance of the MSMEs. The study also concludes that the external environment influences performance by influencing the management strategies the organizations carry out. Magogo (2017) conducted a study that sought to establish effectiveness of strategies for counter terrorism in Eastleigh area in Nairobi County. The research used a descriptive research design. The findings of the study established that the main strategies used were risk management strategies, police operations, intelligence services as well as random searches and raids. The above three studies present a conceptual gap on effectiveness and management strategies.

Wang, Zhou, Nayak and Chen (2010) conducted a research that sought out to investigate the effectiveness of traffic control and management strategies during evacuations. The research used the dynamic traffic assignment centered mesoscopic traffic-network planning as well as virtual reality model DYNASMART-P and used the model to a highway system on the way of the clearing traffic. The findings of the study revealed that the emergency evacuations resulted in a substantial jamming in the disastrous zone, along the clearing ways, as well as at the clearing end point as a result of increasing attention of transportation agencies. Khan, Khan and Zakir (2017) conducted a study that sought to explore the motivation and turnover intention of traffic police.

The study utilized an exploratory research design. The findings of the study revealed that both inherent impetus and general impetus had consequences on turnover objective and it was established that there is significant and empirical correlation between motivation and turnover intention and similarly between intrinsic motivation and turnover intention. Mukaria (2017) similarly conducted a study on the effect of motor vehicle air pollution on traffic police officers at key road junctions in Nairobi. The study used a descriptive research design and self-administered questionnaire. Primary data was used in the research. The results revealed that traffic officers were well informed pertaining the bad effects of air pollution on their health especially respiratory disorders for instance breathing problems, pneumonia, wheezing sound, lung cancer, skin disease and bronchial asthma, associated to pollution by motor vehicles but find it difficult to implement the law on pollution due to lack of the sufficient technology to measure the levels of pollution by motor vehicles. The above three studies present a contextual gap with regard to Nairobi Area Traffic Police.

In conclusion, as per the above studies none of them addresses the concept of effectiveness of motor vehicle traffic management strategies used by the Kenya traffic police. This study therefore sought to bridge the existing conceptual gap by exploring the effectiveness of motor vehicle traffic management strategies used by the Kenya traffic police in Nairobi County. The study hence seeks to answer the research question: Effectiveness of motor vehicle traffic management strategies used by the Kenya traffic police within Nairobi County

1.3 Research Objectives

i.   To determine the strategies employed by the traffic police in managing traffic within Nairobi County.

ii.   To establish the effectiveness of the strategies being employed by the traffic police in managing traffic within Nairobi County.

1.4 Value of the Study

The findings of this research will be of significance in generation of other theories and models that others carrying out future researches will utilize to give them a basis of preceding knowledge to conduct their researches from. The theories established by this study will inspire other researches and will be valuable in crafting the null hypothesis, which will either be attested or challenged by their researches.

This study will be valuable in contribution to the body of knowledge. Therefore, scholars as well as academicians who may be seeking out to conduct further studies on similar concept of effectiveness of traffic management strategies used by traffic police will be able

to gain an understanding into the research subject and explore any research gaps not considered by this research.

With a growing population, effective traffic management is important in ensuring a smooth traffic movement. The findings of this study will therefore be of significance to policy makers as it will enable them formulate traffic control plan so as to effectively address the growing concerns connected to traffic.

This study will be valuable to practitioners as they will apply the findings of this study in the implementation of traffic management plans, as well as ensuring evidence of current onsite skills, knowledge as well as experience with regards to the set up and improved traffic signs and devices thereby ensuring competence in the practice of traffic management.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The part discusses the following; theoretical framework, strategy and effectiveness, strategies used by traffic management, measuring effectiveness in Traffic Management and summary of knowledge gaps.

2.2 Theoretical Foundation

The study seeks to analyze and be guided by the various theories put across by different authors but relevant to the subject. The theories include: the resource based theory and the dynamic capabilities theory.

2.2.1 Resource Based View

The resource-based view (RBV) primarily developed to be among the essential explanations that portray the performance of a firm in the strategic management field. As established in the views of Peteraf (2011), RBV is a model that sees the resources of an organization as key in the performance of a firm. In a case where the resources exhibit a VRIN attribute, they are considered as feasible in enabling a firm gain its sustainable effectiveness. The views of Peteraf (2011), Killen, Jugdev, Drouin and Petit (2012) alleges that RBV is mainly an approach established to enable a firm achieve its effectiveness, a concept that emerged from the works of Wernerfelt, Barney; and Prahalad and Hamel in 1980. The supports of this theory allege that organizations need to look within their environment to determine their source of effectiveness that focuses on the competitive environment (Peteraf, 2011).

Consistent with the RBV model, it is easier and possible to utilize the external opportunities of an organization through its current resources in a new manner rather than making efforts

to gain new knowledge for each and every different prospect (Shrivastava, 1994). As established in the RBV model, resources are primarily viewed to play a significant role in helping a firm achieve a higher organizational performance. There are no specified modifications of this theory as established in research studies, however, Killen, Jugdev, Drouin and Petit (2012) alleges that firms that utilize the RBV model are likely to end up in making similar conclusions, thus posing as a limitation of this theory.

As postulated in the case of Nairobi County Traffic Command, there is a need for the organization to establish both its tangible and intangible assets and devise effective strategies of achieving the organizational goals through the use of these resources (Shrivastava, 1994). In this case, Nairobi County Traffic Command may employ the RBV model in examining the manner in which it would manage its paradoxes based on the premise that it's hard-to-copy and heterogeneous resources and capabilities may be used in the reduction of motor traffic accidents while on the other hand ensuring that there is a smooth flow of traffic, efforts that establish the need to focus on the firms resources and connections to achieve its economic goal (Shrivastava, 1994).

2.2.2 Dynamic Capabilities Theory

The dynamic capabilities theory as established in a study conducted by Lee, Lee and Rho (2002) denotes a firm's ability to harness, integrate, reconfigure, and build a firms internal and external competency in an effort to address the rapidly changing environment. Developed by David Teece, the dynamic capabilities theory infers to an organizations capacity to purposefully extend, create, and modify its resource base under a basic assumption that a firm's dynamic and capabilities are core in its competency and may need to be utilized in modifying its short-term competitive position while building its long-term

strategic goal. This theory therefore emerged as a touchstone within the domains of strategic management due to its capability in enabling firms meet the challenges that are posed by environmental dynamics which may make their existence obsolete (Teece, Pisano, & Shuen, 1994).

According to James & Alistair (2018), there are no modifications or developments of this theory. However, Makadok (2001) suggests the need for modifications in this theory, efforts hedged on the need to ensure that it takes into consideration single entrepreneurs as the prime sources of effectiveness through the introduction of a concept of resource flexibility. In regards to managerial implications, Makadok (2001) adduces that the theory needs to underpin the essence of entrepreneurs to ensure a balance is established in determining distinctive capabilities that may enable a firm to achieve its effectiveness and to adapt to the changing market conditions. The limitations of this theory according to Makadok (2001) are evident in the negative effects as well as the contributions that emanate from ordinary capabilities that may affect the performance of a firm.

As evident in Teece's concept of effectiveness, in the case of motor vehicle traffic management strategies, the inclusion of this model in addressing some of the challenges inhibited by Nairobi County Traffic Command would establish the need to understand some of the matters that may harness the organizations ability in achieving its corporate goals. This would therefore require the firm to underlie its capability to shape and sense its opportunities and threats while seizing its opportunities as the backbone of the economic hub of the country (Peteraf, 2011). This would therefore ensure that the firm derives proper measures to maintain its competitiveness through the enhancement, protection,

combination, and reconfiguration of its intangible and tangible assets that may be used in the reduction of motor traffic accidents while on the other hand ensuring that there is a smooth flow of traffic.

2.3 Strategy and Effectiveness

Strategy is an important element of management process (Mehra, Hoffman & Sirias, 2001). According to Johnson et al. (2002) strategy is the direction and scope of an organization over a period of time with an aim of achieving an edge for the enterprise using its structure of resources in a dynamic surrounding to meet demands and prospects of the environment. Strategic management involves specifying the mission, vision and objectives of an organization and implementing of the strategies through research. Strategy has to bring out the efforts of all the stake holders to realize the organizational goals through effectiveness by proper implementation (Mehra, Hoffman & Sirias, 2001).

A poor and vague strategy will limit the implementation process which is done with an aim of achieving results through being effective. A good implementation process may not overcome nor rectify the downside of a bad or poor strategic planning effort (Hrebiniak, 2006). Cottrell et al. (2006) stress that the importance to commence with an articulated strategy will involve a worthy concept that will promote a successful implementation plan.

A good strategy that has been generated but not implemented is not an effective one. It is just like having a good plan or an intention but not acting with an effort to apply the same plan or intention, the plans are futile. According to Dannenmaier and Dannemaier (2008) best results are always achieved from properly developed and thought strategy. In order to have workable strategic ideas, it is good to plan and execute the plans by setting clear priorities in the implementation plan. Planning without execution is useless in itself.

Song, Yu and Wang, Z. (2009) alluded that there should be comprehensive implementation plan, with clearly defined action lines, responsibilities and timeframes which enables the implementation process. In addition, the strategy of an enterprise ought to be accorded to the external environment; it ought to similarly suit the various aspects in charge of its operation. According to David, (1997) effective strategy execution ought to regard concerns to its operation which includes, matching organizational structure to strategy, generating supportive organizational culture among other issues.

2.4 Strategies Used by Traffic Management

Traffic policing deals with the enforcement of the laws that have been created to moderate road user behavior by the implementation of the laws by the road users and supervision by the Traffic Police who apply remedial action when the same is breached. Traffic policing is constituted by creation, promotion and maintenance of a safe road environment by adherence to traffic laws by both pedestrians and vehicle users (Cottrell et al., 2006).

Due to the high discovery and prosecution rates resulting from the use of automated enforcement devices like street cameras and speed guns some scholars have argued that fairness and morality of the use of automated devices is a means of raising revenue. Zaal (1994) has shown that the alleged fairness of enforcement is important to the police communal affairs and can have an important impact upon policing efforts to train drivers and uphold suitable road user behavior. Zaal (1994) has indicated that the use of automated application has a significant effect due to the increase in recognition and prosecution rates but argue that if automated application is to bring about a change in road traffic users behavior and influences them to conform with the laid out rules and guidelines on road use then the use of automated devices has a positive impact on traffic management (Zaal, 1994).

The great volume of literature relating to the preemption based approach to traffic law implementation suggests that, in order to be operational, policing activities need to be organized so as to present a significant and immediate mitigation of risk to the capable traffic offender. One of the fundamental problems that hinder this process, which has been constantly outlined in the research literature, is the inability of authorities to consistently uphold the necessary high levels of enforcement (Song, Yu & Wang, 2009).

2.5 Measuring Effectiveness in Traffic Management

Effectiveness in traffic management can be measured using a number of parameters namely; economic considerations, alternative goals, attitudes of the public, national constraints and impact on the environment. If traffic management has led to an improvement in the performance of the economy, then the strategy being employed is working. If the strategy being employed has improved alternative goals like reducing the number of accidents on the roads, increasing mobility and saving time taken on the roads then it is a good strategy (Cottrell et al., 2006).

When the general attitude of the public is positive towards the measures being taken to improve flow of traffic in a locality, then this gives an indication that the strategy being employed is working towards achieving its objectives. If the cost of implementing the strategies being used to manage traffic in a region or locality is economical then there is an indication that the strategy being employed is working. A positive impact on the environment and a reduction of pollution while employing strategies in managing traffic shows that then the strategy is working (Leontiadis et. al., 2011).

2.6 Summary of Knowledge Gaps

The study by Ondola, Rambo and Odundo (2013) focused on effectiveness of housing policies and their execution strategies. The study was in the context of provision of low housing in Kisumu there by leaving a knowledge gap as it did not focus on motor vehicle traffic management strategies in Nairobi County. Dixon, Martinez and Martin (2015) only focused on effectiveness with regards to social media marketing strategies and failing to address effectiveness with regards to traffic management strategies hence a conceptual as well as contextual knowledge gap. Magogo (2017) conducted a study that only focused management strategies for counter terrorism in Eastleigh area in Nairobi County. The study however did not look into the concept of its effectiveness in those management strategies hence leaving a knowledge gap.

Mukaria (2017) in his study on motor vehicle air pollution at key Nairobi road junction focused only on traffic police officers' knowledge on motor vehicle pollution, but failing to address the concepts of both effectiveness as well as management strategies thereby leaving a knowledge gap. Karanja (2012) conducted a study on the views of traffic police officers on road safety in Eastland area in Nairobi. The study was in the context of traffic police officers but failed to address the concepts of both effectiveness as well as management strategies thereby leaving a knowledge gap. Khan, Khan and Zakir (2017) conducted a study to explore the motivation and turnover intention of traffic police. The study also focused on traffic police officers but failed to address the concepts of both effectiveness as well as management strategies thereby leaving a knowledge gap to be filled by the current study.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The part explains the process that was employed when undertaking the study. It explains the research design, the population of the study, data collection and data analysis.

3.2 Research Design

Research design is a set of approaches and procedures used in gathering data (Kirumbi 2018). It also refers to a technique of collecting data (Suresh, Mohit & Sharma 2013). The research employed a survey technique. The main aim was to enable users of the research work to be able to answer the questions as to how and why (Vaus, 2007). The survey involves the analysis of evidence collected using the data collection tools in the prescribed collection technique.

3.3 Population of Study

The research was carried out in 14 police stations within Nairobi County that have various police ranks dealing with traffic matters. There are 34 police stations within Nairobi County but only 15 police stations deal with traffic matters within Nairobi County. These include: Lang'ata, Karen, Buruburu, Industrial Area, Embakasi, Kilimani, Kabete, Gigiri, Kasarani, Kayole, Pangani, Makongeni, Central, Kamukunji and Nairobi Area police station.

In this study the respondents were 55 in total and they were all from the police stations listed above apart from Karen police station as there was no respondent and they included: Division traffic enforcements officers, Traffic police constables, Officers commanding traffic and respondents from sections within traffic like: Traffic patrol section, Speed check

section, charge registry section, traffic court section, Accidents registry section, Report office section, traffic warrants section, traffic control room and the Government Vehicle Investigation of Accidents Section.

3.4 Data Collection

This is a procedure of gathering material from either or both primary and secondary data sources to find out answers to the research problem, assess the theory and gauge the results (Dudovskry, 2004). The data collection tools designed for the research exercise was developed to enable the researcher collect primary data. Primary data was collected through the use of questionnaires from the respondents. The questionnaires were issued early in advance to the respected parties to enable an in depth analysis of the data with an aim of attaining results.

3.5 Data Analysis

Quantitative and qualitative data analysis was adopted in the study. Descriptive statistics and content analysis was used to examine the responses gotten from the questionnaires. Kothari, (2004) contends that content analysis is a crucial undertaking at any time one deals with the study of the sort of the verbal materials. Descriptive statistics such as mean and frequencies was used to analyze quantitative data. Tables and other graphical designs was utilized to describe the data for understanding simplicity. Content analysis was used to analyze open ended question.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This part describes the data analysis, interpretation and presentation of the research findings which was on the effectiveness of motor vehicle traffic management strategies by traffic police within Nairobi County.

4.2 Demographic Information of the Respondents

The demographic data obtained from individual respondents and their background is examined in this segment. Doing this enabled the researcher to comprehend the respondents setting and their capability to provide useful data. The results are presented according to the demographics. The general information sought from the respondents included gender of the respondent, name of the organization, the length of time they had worked for the organization, length of time in the traffic police department.

4.2.1 Name of the Organization

Table 4.1 presents which organization the respondents belong to.

Table 4.1: Name of the Organization

	Frequency	Percent %
Kenya Police Service	55	100

All the respondents belong to the Kenya Police Service.

4.2.2 Length of Service in the Organization

The respondents were required by the study to disclose the duration they had served in the organization.

Table 4.2: Length of Service in the Organization

	Frequency	Percent	Cumulative Percent
Below 5 Years	8	14.5	14.5
Between 5-10 Years	12	21.8	36.4
Between 10-20 Years	13	23.6	60.0
Over 20 Years	22	40.0	100.0

According to the research findings, the study established that 14.5 % of the respondents had worked for the organization for 0-5years. 21.8 percent of the respondents had worked for the organization for 5-10 years. 23.6 percent of the respondents had worked for the organization for 10-20 years, while 40% had been in the organization for above 20 years. This is an indication that various respondents possessed the requisite experience in the organization to make meaningful contributions to this study.

4.2.3 Length of Time in the in the Traffic Police Department

Figure 4.1: Years in the Traffic Police Department
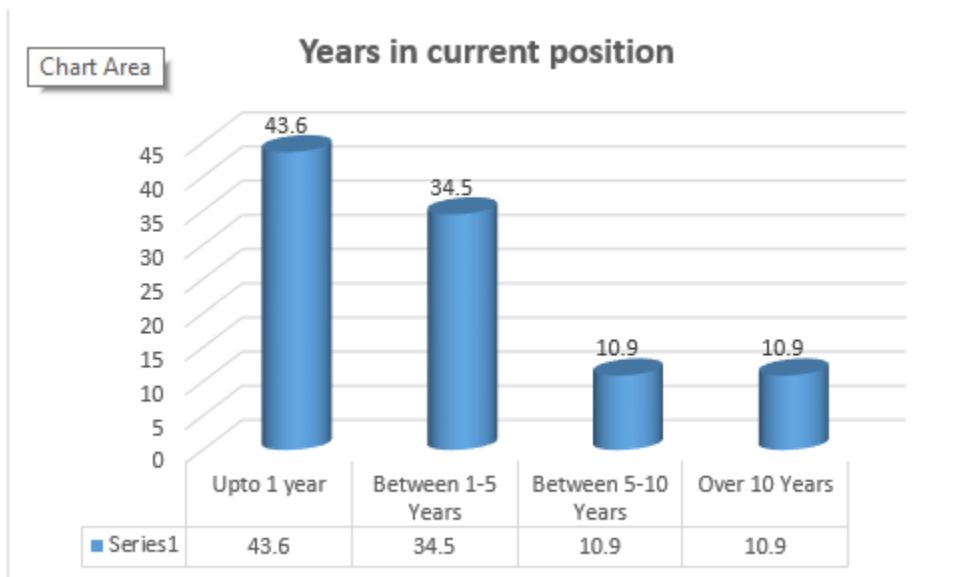
43.6% of the respondents had been in the police department for a period of 1 year, followed by 34.5% of the respondents, a period of between 1-5 years, 10.9% of the respondents, for a period of between 5 – 10 years and lastly 10.9% of the respondents for a period of 10 years and above.

4.3 Traffic Management Strategies Used to Manage Traffic within Nairobi County

The researcher sought to identify management strategies used to manage Traffic in Nairobi County. The results are presented in the table 4.3.

Table 4.3: Traffic Management Strategies used to Manage Traffic within Nairobi County

	Mean	SD
Road closure	2.33	.904
Weight restriction	2.22	.738
Temporary speed limit	2.15	.705
Warning	2.09	1.076
Diversion route	1.96	.860
Clear way/ no stopping	1.84	.739
Speed guns	1.84	.938
Road signs	1.62	.707
Prosecution	1.44	.811
Street Cameras	1.31	.505

The finding indicate that road closure strategy is rarely applied as pointed out by the mean of 2.33 and a small standard deviation of .904. Weight restriction strategy is rarely applied as pointed out by the mean of 2.22 and a small standard deviation of .738. Temporary speed limit strategy is rarely applied as shown by the mean of 2.15 and a small standard deviation of .705. Warning strategy is rarely applied as indicated by the mean of 2.09 and

a small standard deviation of 1.076. Diversion route strategy is rarely applied as pointed out by the mean of 1.96 and a small standard deviation of .860. Clear way/ no stopping strategy is rarely applied as indicated by the mean of 1.84 and a small standard deviation of .739. Speed guns' strategy is rarely applied as pointed out by the mean of 1.84 and a small standard deviation of .938. Road signs strategy is rarely applied as indicated by the mean of 1.62 and a small standard deviation of .707. Prosecution strategy frequently applied as pointed out by the mean of 1.44 and a small standard deviation of .811. Street Cameras strategy is frequently applied as pointed out by the mean of 1.31 and a small standard deviation of .505.

Other strategies identified as frequently utilized include, Control drunk drivers, sophisticated traffic lights, manual traffic facilitation by traffic officers, traffic lights, traffic patrol, diverting traffic, use of police gadgets for communication and county traffic marshals.

4.4 Effectiveness of Motor Vehicle Traffic Management Strategies by Traffic Police within Nairobi County

The main aim of the research was to explore the influence of effectiveness of motor vehicle traffic management strategies by traffic police within Nairobi County.

Table 4.4 Effectiveness of Motor Vehicle Traffic Management Strategies

Effective traffic management strategies	Mean	SD
Attitudes of the public	4.33	0.874
Increased number of mobile traffic police	4.22	0.708
Impact on the environment	4.15	0.675
Number of traffic offenders	4.09	1.046
National constraints	4.06	0.83
Economic considerations	4.04	0.709

The findings indicate that to a great extent the strategies have resulted in improved attitudes of the public as indicated by the mean of 4.33 and a small standard deviation of 0.874. The findings indicate that to a great extent the strategies have resulted in increased number of mobile traffic police as pointed out by the mean of 4.22 and a small standard deviation of 0.708. The findings ascertained that to a great extent the strategies have had impact on the environment as revealed by the mean of 4.15 and a small standard deviation of 0.675.

The strategies have resulted in increased number of traffic offenders as revealed by the mean of 4.09 and a small standard deviation of 1.046. The findings indicate that to a great extent, the strategies have led to national constraints as indicated by the mean of 4.06 and a small standard deviation of 0.83. The findings indicate that to a great extent traffic management strategies have resulted to economic considerations as indicated by the mean of 4.04 with a small standard deviation of 0.709.

4.5 Strategies to Enhance Effectiveness of traffic Management Strategies

The respondents recommended removal of roundabouts and be replaced with overpass and underpass roads, removal of bumps on major highways, improve and expand roads as well as create more footbridges, have designated stages, creation of service lanes on major superhighways to avoid passengers using public vehicles not to board or alight on the highway, deployment of more traffic police as well as mobile police patrols, public sensitization of road rules, prosecution and tough penalties for traffic offenders including pedestrians who opt to cross on the highway instead of using footbridges, de-registration of indiscipline Sacco, relocation of terminus from central business district, improving pedestrian walking streets, controlling the number of public service vehicles accessing the

central business district, improve the railway network in order for people to opt using railway transport which is considered cheaper and easier to use, repair damaged roads, additional of street cameras for monitoring and sophisticated traffic lights, initiate road safety lectures and improve emergency evacuations services by police within the city and other major highways countywide. This is because traffic snarl-ups and loss of life as a result of road accidents and subsequent delay in evacuation services have been on the rise. There is also the need to improve the police response time regarding respond to distress calls since road accidents result in substantial jamming in the disaster zone, along the evacuation routes, as well as at the evacuation destinations. This is an area that needs increased attention of transportation agencies.

4.6 Discussion of the Findings

The study found out that motor vehicle traffic management strategies have resulted in reduction of road accidents and prevention of road accidents. To a great extent the strategies have resulted to improved order and sanity on our roads and resulted in better improvement in traffic congestion. To a great extent effective traffic movement has resulted in better completion of road construction projects and resulted in improved stakeholder satisfaction.

The findings are in line with the findings of Dixon, Martinez and Martin (2015) who conducted a research that sought to explore the effectiveness of social media marketing strategies in intercollegiate athletics departments. The study adopted a case study method. Primary data was utilized in the study. The findings of the study revealed that steal, team, engagement, analytics, and mavens enhanced social media marketing effectiveness.

The findings are also in line with the findings of Wang, Zhou, Nayak and Chen (2010) conducted a research that sought out to investigate the effectiveness of traffic control and management strategies during evacuations. The research used the dynamic traffic assignment centered mesoscopic traffic-network planning as well as virtual reality model traffic. The findings of the study revealed that the emergency evacuations resulted in a substantial jamming in the disastrous zone, along the evacuation routes, as well as at the evacuation destinations as a result of increasing attention of transportation agencies.

The findings are also in line with the findings of Khan, Khan and Zakir (2017) who conducted a study that sought to explore the motivation and turnover intention of traffic police. The study utilized an exploratory research design. The findings of the study revealed that both intrinsic motivation and over all motivation had consequences upon turnover intention and it was concluded that there is significant and empirical correlation between motivation and turnover intention and also between intrinsic motivation and turnover intention.

The findings are also in line with the findings of Mukaria (2017) who conducted a study on the effect of motor vehicle air pollution on traffic police officers at key road junctions in Nairobi. The study used a descriptive research design and self-administered questionnaire. Primary data was used in the study. The findings of the study revealed that traffic officers were well informed regarding the bad effects of air pollution on their health especially respiratory disorders for instance difficulty in breathing, pneumonia, wheezing sound, lung cancer, skin disease and bronchial asthma, associated to motor vehicle pollution but find it difficult to implement the law on pollution due to lack of the sufficient technology to measure the levels of pollution by motor vehicles.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section outlines a summary of findings, conclusions as well as recommendations. The findings are summarized according to the study objective of establishing the effectiveness of motor vehicle traffic management strategies by traffic police within Nairobi County. The findings have been discussed relative to the questionnaire aspects which were on; demographic data on the respondent the aspects and questions on the effectiveness of motor vehicle traffic management strategies within Nairobi County, Kenya.

5.2 Summary of Findings

The study objective was to establish the effectiveness of motor vehicle traffic management strategies within Nairobi County. The research design was descriptive. The study population consisted of the traffic police stations in Nairobi County. Semi-structured research questionnaire was employed to obtain primary data. The researcher was a census study owing to the small number of respondents from target population whose responses are vital in this study. The demographic data obtained from individual respondents and their background was examined. Doing this enabled the researcher to comprehend the respondents setting and their capability to provide useful data. The results were presented according to the demographics and the research questions. The general information sought from the respondents included their gender, length of service in the organization and the length of time they had worked for traffic police department.

The findings on traffic management strategies indicate that rarely are the strategies of road closure, weight restriction, temporary speed limit, warning strategy, diversion route strategy, clear way/ no stopping, speed guns, road signs used. The findings indicate that use of prosecution and street cameras are frequently applied. Other strategies identified as frequently utilized include, control drunk drivers, manual control of traffic by traffic police, sophisticated traffic lights, use of traffic police patrol, use of traffic lights, diverting traffic, use of police gadgets for communication and county traffic marshals.

The study found out that motor vehicle traffic management strategies have resulted in reduction of road accidents and prevention of road accidents. To a great extent the strategies have resulted to improved order and sanity on our roads and resulted in better improvement in traffic congestion. To a great extent effective traffic movement has resulted in better completion of road construction projects and resulted in improved stakeholder satisfaction.

5.3 Conclusion

The study sought to find out the effectiveness of motor vehicle traffic management strategies within Nairobi County. As per the findings, the study concludes that motor vehicle traffic management strategies are effective. The study found out that motor vehicle traffic management strategies have resulted in reduction of road accidents. To a great extent the strategies have resulted to improved order and sanity on our roads and resulted in reduction of traffic congestion. To a great extent effective traffic movement has resulted in better completion of road construction projects and resulted in improved stakeholder satisfaction.

5.4 Recommendations

Management strategies constantly brings about effectiveness as well as positive results and ends the day with a promising bottom-line. When it comes to promoting effectiveness, management's strategic decisions are primarily intended to reduce resources, whereas employing time-saving strategies. An organization whose management balances their decisions in ensuring that the entity continues to be effective gains from higher productivity levels with less resources. Therefore, implementing effective management strategies helps the organization attain effective business goals.

Traffic policing deals with the enforcement of the laws that have been created to moderate road user behavior. It involves the implementation of the laws by the road users and supervision by the Traffic Police who apply remedial action when the same is breached. Traffic policing is constituted by creation, promotion and maintenance of a safe road environment by adherence to traffic laws by both pedestrians and vehicle users (Cottrell et al., 2006).

To enhance the effectiveness of traffic management strategies the policing activities need to be organized so as to present a significant and immediate mitigation of risk to the capable traffic offender. One of the fundamental problems that hinder this process, which has been constantly outlined in the research literature, is the inability of authorities to consistently uphold the necessary high levels of enforcement.

5.5 Limitations of the Study

The study's limitations comprised inadequate time set aside for the research and the limited scope of study. Securing face to face introduction of my research was a challenge due to

the senior managers' busy schedules and the limited stipulated time to carry out the research. To counter this, appointments were sought and scheduled before hand, sometimes outside the official working hours. The respondents contacted were unwilling to provide material being afraid that the material sought would be utilized to coerce them or produce a bad picture of the organization. The researcher dealt with the issue by presenting an introduction letter from the university and guaranteed them that the material they would provide would be handled with confidentiality and it would be utilized only for academic reasons.

5.6 Suggestions for Further Research

Other research studies on the challenges of executing traffic management strategies should be researched on as well as the causes of traffic snarl-ups despite the strategies that have been put in place. The study suggests further survey to study the implication of corruption in Kenya's traffic police department on road safety. A research on the role of the City Council in motor vehicle traffic management in Nairobi should also be undertaken. This will be to test the hypothesis that currently states that there is an overlapping and duplication of roles between Nairobi County Askaris and Traffic Police Department. Additionally, further research should be done on the factors affecting strategy implementation and impact on effectiveness of motor vehicle traffic management strategies within Nairobi County by focusing on the responses of other stakeholders other than the traffic police department so as to portray dependable material that demonstrates actual situation across every sector.

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Appendix I: Research Questionnaire

EFFECTIVENESS OF MOTOR VEHICLE TRAFFIC MANAGEMENT STRATEGIES BY TRAFFIC POLICE WITHIN NAIROBI COUNTY

Section A: GENERAL INFORMATION

1. Gender of respondent

  Male   [ ]   Female   [ ]

2. a) Name of organization?   …….. ....

…………………………………………………………………………………………………

b) Name of the respondent (Optional) ……………………………………………….……….

c) Name of your Department …………………………………..…………………………..

3. How long have you served in the organization?

Below 5 years   [ ]   between 5-10years [ ]

between 10 – 20 years [ ]   over 20 years   [ ]

4. Indicate number of years in current position

Up to 1 year [   ]   between 1-5 years [ ]

between 5-10 years [ ]   over 10years [ ]

SECTION B: Management Strategies Used to manage Traffic in Nairobi County

5. To what extent do you use the following strategies in managing traffic in Nairobi City County? Kindly tick the appropriate digit where: 1 for Frequently Applied; 2. Rarely Applied; 3. Not Applied; 4. No idea

Strategy		Extent of Application			
		Frequently Applied	Rarely Applied	Not Applied	No idea
i.	Street cameras				
ii.	Speed guns				
iii.	Prosecution				
iv.	Road side signs				
v.	Warning				
vi.	Road Closure				
vii.	Weight restriction				
viii.	Clearway/ no stopping				
ix.	Temporary speed limit				
x	Diversion route				

6. What other strategies are used by Nairobi traffic police apart from the ones listed above?

……………………………………………………………………………………………….

……………………………………………………………………………………………….

……………………………………………………………………………………………….

SECTION C: Effectiveness of Traffic Management Strategies

7. To what extent do you think your strategies meet the following effectiveness measures?

Kindly tick the appropriate digit where: 1 for very high; 2. High; 3. Low; 4. Very low

	Parameters used to measure effectiveness	Very high	High	Low	Very low
i.	Economic considerations				
ii.	Alternative goals				
iii.	Attitudes of the public				
iv.	National constrains				
v.	Number of traffic offenders				
vi.	Increased number of mobile traffic police				
vii.	Impact on the environment				

8. What are some of the strategies you would suggest to be put in place to bring more effectiveness in managing traffic within Nairobi County?

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THANK YOU FOR YOUR TIME